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AUTHOR Sobeih, Nabil Ahmed Amer
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ABSTRACT

This examination of implications of African economic conditions for educational policy considers problems which arise in the attempt to relate economic circumstances to education. The first of three parts compares product levels of about 50 African countries with selected developed countries and a number of developing countries outside Africa, examines economic progress in recent years, and judges present African circumstances in terms of the income level and market size of Canada in 1870. Such comparisons were designed to help identify a group of African countries with common characteristics and problems using three related criteria: low income level, small market size, and unfavorable economic structure. Part 2 discusses the significance of education and skill development in Africa from an economic point of view. Implications of a development model formulated by Chenery and Strout are reviewed and inadequacies of Africa's educational system are outlined. Part 3 examines important questions of choice which arise in the determination of economic and educational priorities in low income countries. Specific attention is given to education as an economic priority, to priorities within the educational system itself, and to kinds of education which should be offered. (LH)

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Economic priorities and Education in developing Africa with special reference to Egypt A comparative analysis

Dr. Nabil Ahmed Amer Sobeih
Associate Professor of Comparative Education
Faculty of Education
University of Qatar
Arabian Gulf

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fourth Triennial World Conference on Education
of the
World Council for Curriculum and Instruction
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Economic Priorities and Education in developing Africa with special reference to Egypt A comparative analysis

INTRODUCTION

The purpose of this paper is to examine some implications of African economic conditions for educational policy: and to consider some of the problems which arise in the attempt to relate economic circumstances to education. It is argued that, economically, low levels of development characterise most African countries. That this has particular implications for education and manpower policy is, of course, not a new idea. Harbison and Myers, for example, have adumbrated policy suggestions for countries in which traditional agriculture is the main present activity and in which prospects for early development of manufacturing industry are poor; and they explicitly count many African countries in the wider group of countries for which their prescriptions are intended.[1]

The present paper attempts, however, to provide a reasonably detailed and systematic specification of the

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African economies; seeks to relate this specification to the identification of policy objectives; and differs sharply from Harbison, Myers and other commentators in its educational policy conclusions.

The paper is organised in three parts. The first considers the characteristics and policy problems of the African economies; the second seeks to establish that education is - from an economic point of view - of particular significance in African conditions; and the third examines some of the more important questions which arise once the economic significance of education is accepted.

I. CHARACTERISTICS AND POLICY PROBLEMS IN THE AFRICAN ECONOMY

Developing Africa - by extension of the currently fashionable synonym for poor countries - may be defined as the African continent and its associated islands minus the Republic of South Africa. The exclusion of the Republic could be justified on many grounds, but, for present purposes, it may simply be noted that South Africa differs markedly from other African countries in its level of economic development, in its economic structure. Even with the exclusion of South Africa, there is considerable political, social and economic variety in African countries, and it is, therefore, necessary

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explicitly to justify an attempt at collective examination of these countries. Such justification clearly cannot take the form of arguing that the diversity is manifest within the framework of a coherent economic entity, since intra-African economic links are at present notoriously weak. It must rather be sought in the presence of important common characteristics and problems in the different African economies; and it is thus appropriate to attempt to identify a range of common characteristics - with common policy implications[2] - which would embrace at least a majority of countries in Developing Africa.[3]

In this connection it may be asserted, then hopefully demonstrated, that the main, and related, characteristics of the African economies are low levels of development and slow historical and contemporary growth; and that African economies have enough in common to permit the specification of a representative set of characteristics and policy objectives. It may be accepted that, fully specified, levels of development should be construed in terms of more than narrowly economic criteria; and it may be agreed that there substantial difficulties in giving wholly meaningful interpretation to data on conventional national income statistics. Nevertheless, weak attitudes and institutions, for example, are almost certain to be reflected in attained levels of output which national income accounting does measure systematically if approximately. In the circumstances, levels of

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development in Africa may intially be judged by comparing African GDP per head with that of other selected countries.

For this purpose, it is possible to compare product levels of about 50 African countries in 1976, first with those of selected developed countries, and second with a number of developing countries outside Africa. Thus, in 1976 product per head in the USA, the UK and the USSR was US$5,839, US$3,908 and US$2,989 respectively; and, by contrast, all the African economies - with the special exception of Libya (US$1,990) - recorded GDP per Caput of less than US$1,500. Indeed, apart from Egypt, Gabon, Liberia, Zambia, the Ivory Coast, Mauritius, Rhodesia, Senegal, Algeria, Ghana and Tunisia, all the African economies had a product per head of less than US$800; and in 18 countries the relevant figure was US$700 or less. The African levels were thus clearly very much lower than those of the most advanced developed market and centrally planned economies, the USA and the USSR; and also very much lower than that of a middlerange developed market economy, the UK.[4] Moreover, African levels were generally below those prevailing in Latin America, where product per head was less than US$1,200 in only one country and greater than US$1,300 in 10 countries. Asian levels, on the other hand, were more like those of Africa, although the proportion of Asian countries at very low levels (say US$1,100 or less) was probably smaller than in Africa. The Asian countries in the very low income category included, however, the most populous - India, Indonesia

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and China.[5]

If, as measured by reasonably current levels of product per head, the economic distance between African and developed countries is very great, the difference in product per caput provides some measure of the magnitude of the task African countries set themselves when they seek deliberately to create modern economies characterised by a substantial and sophisticated capital stock, a marked and developed propensity to apply science, and a skilled and well-trained labour force. It is well known that the developed countries now have such economies; and that they acquired them in the course of the last 200 years or so. What is less well-known, but what is probably more important, is that the level from which the developed countries started their modern development was almost certainly much higher than present African levels; and one way in which this can be quickly demonstrated is to take US$1,200 as a generous indicator of contemporary African conditions and compare it with estimates of product per head in the initial stages of modern economic growth in the developed countries. Professor Kuznets has done suggestive work on the initial levels of the modern economies, and a rough up-dating of his earlier calculation suggests that, generally speaking, the immediately preindustrialisation levels of product per head in the now developed countries was about US$300 in 1966 prices.[6] The Gulf established by this comparison between

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Developing Africa and, as it were, Developing Europe could be used to underline the contemporary differences between Africa and Latin America, since a majority of Latin American countries are either now at, above, or even well above the US$1,300 level. Moreover, in a fuller consideration of contrasts among the present developing regions, it would be necessary to point out that although the most developing countries in Asia are still below the historical levels of the new developed countries, the more populous of the Asian countries have levels of population which are more comparable with that of Developing Africa as a whole than with those of individual African states; and that these Asian countries should, in their attempts to develop, consequently enjoy whatever advantages attach to large, or at least larger, market size.

African countries are, then, predominantly among those which in contemporary terms have the furthest to go economically. They are also, not surprisingly and for reasons which will be touched upon below, very much among the least equipped to go at all. That this should be so creates a strong presumption that historical growth over the last century, say, must have been slow[7]; it also heightens interest in recent African performance. It is, therefore, convenient to examine recent years before redeeming the earlier promise to specify a representative set of characteristics and policy objectives.

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In this connection, it should be said at once that, even when all allowances are made for special circumstances - associated with the aftermath of independence, the inexperience of young governments etc. - African performance in recent years has been generally disappointing. This is not to say that there has been on economic progress, nor even that no very impressive achievements can be identified. It is, however, to say that, judged by the fundamentally realistic standards implied in the target set for the first UN Development Decade of securing a real rate of growth of 5 per cent per annum in total GDP by 1969, the African performance leaves much to be desired. Thus, between 1960 and 1966 estimates of the Economic Commission for Africa suggest that there were 13 African countries (comprising 22 per cent of the total population of Developing Africa in 1966) in which product per head actually declined in real terms. In a further 6 countries (with more than 17 per cent of the 1966 population) real rates of growth of product per caput were positive but less than 1 per cent per annum; and in another nine countries (with 33 per cent of the 1966 population) real rates of growth were more than 1 but less than 2 per cent per annum. To sum, therefore, there were at least 28 African countries (comprising some 72 per cent of the total population of Developing Africa) in which product per head grew annually in real terms by less than 2 per cent between 1960 and 1966; and in which, therefore, given that population was generally increasing at an annual rate

of 2.5 per cent, the prospects for achieving the target of the first Development Decade were extremely small.

To some extent the attempt at economic development in Africa in the 1960's may be seen as a co-operative effort involving the African countries themselves and the developed countries, notably, of course, the former metropolitan powers. It would, therefore, be interesting, indeed fascinating, to attempt to explain, judiciously and objectively, the disappointing performance in terms of African and developed-country policy. Short of such an attempt, it may here be suggested that much that was wrong in both policies is capable of being traced to a failure properly to appreciate the weight and importance of the African economic legacy from the colonial period; and it is important to stress that this point does not depend on particular views on the question of imperialism. At root, the imperialist charge is that African countries were positively exploited by the former metropolitan powers. All that is required in the present context is acceptance of the fact that, whatever the metropolitan powers may or may not have done to or for the African countries, they had not by 1960, say, endowed them with economies that were self-suited to the pursuit of modern economic growth, and that policies designed to secure such growth in African conditions must begin with realistic recognition of the kinds of economies African countries now possess, as well as the kind of international economy in which they have to operate.

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Modern economic growth may be construed in terms of self-reinforcing and continuing increases in output per head; and the process of modern growth has resulted, in a limited number of countries, in high and increasing income levels and large and expanding markets. The attainment of modern economies has been consistent with varied experience and political systems, but has universally been associated with a number of common features, including an increasingly widespread dissemination of rational attitudes and methods and structural transformation, resulting notably in an increased weight of secondary and a decreased weight of primary activities. To identify factors associated with modern growth is not, of course, to explain it. It is, however, possible to follow Chenery[8] and to suggest that growth is likely to be speeded up by the adoption of policies which allocate resources in a way consistent with the historical patterns of the developed countries and held back by contrary policies, although to be useful this thought has to be substantially qualified. In the meantime, it may be suggested that some comparison of relevant characteristics is now developing and now developed countries can at once provide further measure of the economic distance between them and provide the basis for the formulation, at least in broad terms, of policy objectives. Such a comparison could be organised in various ways. For present purposes, however, present African circumstanes are judged in terms of the income level and market size of Canada in 1870; and

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in terms of contemporary African structure, which, it can be quickly established, differs significantly from that of historical Canada and of the present developed economies.

The purpose of this comparison and the related examination of African economic structure is, it may be recalled, to identify a group of African countries with common characteristics and problems in the context of their economic distance from the now developed countries, and the comparison and examination can use fully take the form of judging the African economies in terms of three related but not perfectly correlated criteria; lowness of income level; smallness of market size; and unfavourable economic structure. Given this, it seems reasonable to begin by comprising the set of developing African countries with average product levels in 1966 of less than US$200, and subsequently reducing this set by countries which fail to meet the second or third criterion or both. In this way, it should prove possible to approximate a set of countries in which something like maximum difficulty might be expected in the course of economic development and in which the general outlines of economic strategy should be similar.

In 1966 there were at least 29 African countries with average product levels of less than US$200.[9] That these were in fact 'poor' countries may be graphically seen by comparison with the 1870 average product level in Canada which may be estimated at US$467 in 1966 prices.[10] None of

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the African countries in 1966 matched the Canadian level of 1870; the ratio of African 1966 to Canadian 1870 levels ranged from 41 to 10 per cent; and in somewhat more than half of the African countries the average product level in 1966 was less than 20 per cent of what it had been in Canada in 1870.

In 1870 the Canadian population was relatively small at about 3.5 million. As a consequence, there were a number of African countries in which total GDP in 1966 was a higher fraction of the Canadian GDP of 1870 than produce per head was of Canadian average product; and total product in Egypt and Nigeria was substantially greater than the earlier Canadian output. It is not, however, permissible to conclude from this that there are a number of developing African countries in which market size as measured by total output is such as to suggest that they are well placed to pursue economic growth. It is probably true that of all the present developed market economies Canada experienced a growth pattern with greatest relevance to the transformation of the now developing countries. In using the historical market size of Canada as a criterion for judging the viability of contemporary African economies, however, a number of qualifications are necessary. Thus, in the first place it has to be remembered that Canada enjoyed some very important advantages that are not now available to developing Africa. These included an ability quickly to establish growth oriented institutions; a relative ease in attracting

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foreign capital and labour on a large scale; and, particularly between 1896 and 1914, unusually favourable external trading conditions. In the second place, the fact that Canada had substantially higher income per head in 1870 than the present African economies conferred further advantage; for example, compared to present African circumstances, the Canadian demand pattern was different, more conducive to growth, and with a higher savings rate. Finally, it must also be remembered that the scale and competitiveness of modern industry is much greater now than it was in 1870.

These considerations, suggest that for present purposes the measure of market size which could be designated as the minimum required to ensure, other things also being favourable, fairly rapid transformation should be set significantly above the Canadian level of 1870. How much above is a somewhat intractable question. It may, however, be accepted that the smaller the present African income per head, the larger the multiple African market should be of the historical Canadian market; and this thought may be used to determine, in an admittedly arbitrary way, which of the African countries are now handicapped by small market size. Thus, the convenient but arbitrary criterion requires that all countries in which the relative discrepancy in average product is not at least offset by the corresponding but opposite discrepancy in total product should be classified as being of small market size; and on this criterion only Egypt is excluded from the designation.[11] It is, moreover, worth recording that 21 of the 28 remaining countries had total products in

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1966 which were less than 50 per cent of Canada's 1870 output; and that there were 16 countries in which the relevant ratio was less than 25 per cent.

It has already been noted that modern economic growth has generally been associated with a marked shift in the relative importance of primary and secondary activities. It may now be recognised that low income levels and small market size reflect low levels of productivity and might be expected to be associated with a production structure in which primary activity, agriculture and mining, accounts for a high proportion of total output and employment. The question as to what specifically constitutes a 'high proportion' is one which must again be answered with a certain arbitrariness. It could readily be established that the weight of primary in total output in the 28 African countries under consideration is much higher than that now prevailing in developed economies; and that in the considerable majority of the African countries the relevant ratio is higher than it was in Canada in 1870. In a number of countries, however, the 1966 ratio is lower than the earlier Canadian figure; and the question arises as to whether these countries should be excluded from the set of African economies now characterised by particularly unfavourable conditions. Generally speaking, the answer is probably no. Without overlooking the economic importance of commerce and other services, including administration, it may reasonably be suggested that development depends critically on agriculture, mining and industry. If,

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therefore, the weight of primary in total output is below a specified level, it is important to know whether this is due to the size of the manufacturing sector or to the size of the service sector. Taking this into account and using the earlier importance of manufacturing in Canada, it is appropriate to establish twin criteria, and to suggest that, in the conditions of 1966, any low-income African country of small market size in which primary output accounted for more than 30 per cent and manufacturing output less than 15 per cent of GDP, should be regarded as one with an extremely unfavourable economic structure from the point of view of modern growth.

On these criteria, only Egypt need be excluded from the set of countries confronting extremely difficult conditions.[12] The remaining 27 countries may be characterised by their low income levels, their small market size and their economic structure which in terms of output, and certainly much more in terms of the distribution of the labour force, suggests a strong dependence on primary activity, much of which is organised on a traditional - i.e. non-modern-basis. In 1966 these 27 countries accounted for about two thirds of the total population of Developing Africa and for well over 40 per cent of the total product.

It is tempting to try and classify the 27 countries further, and in particular, to attempt to divide them according to the importance of minerals in production and exports. Such a division would recognise that, generally speaking, external

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demand conditions are more favourable for mineral than for agricultural products. Since, however, the linkage effects between mining and other sectors are known to be weak in African, and since most of the labour force is still engaged in agriculture even in the mineral-rich economies, the distinction between mineral-rich and other economies would bear more heavily on the prospects for financing developments than on the basic process of economic transformation. In many contexts the prospects for development finance would be of extreme importance. Since, however, the present concern is with basic economic characteristics and related policy questions it does not seem necessary to subdivide the 27 countries according, in effect, to their export prospects.

This decision may be reinforced by the thought that the 27, and indeed other, African countries have at least one other fundamental characteristic in common; they are poorly endowed with the kinds of skills appropriate to a modern economy. More will be made of this subsequently. For the moment, it may noted that this is perhaps the most serious deficiency of all; and, in anticipation of later argument, it may be suggested that the resolution of the skills problem will be a necessary, if not sufficient condition, for the establishment of economically and politically viable African states.

The African economies are part of the world economy; and African peoples are increasingly aware of the economic

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standards which prevail in the wider world. There is surely some 'international demonstration effect' now at work; to take the matter no further, those who would argue that this effect reaches only an African élite should be called upon to explain the rapid rate of urbanisation now observable in African countries, in terms other than a desire of literate and illiterate alike to improve their material conditions as a consequence of becoming aware of 'developed' standards as these are reflected in their own national capitals and large cities. Short of such an explanation, it must be accepted that the pressures on even the least equipped of the African countries are not merely that they should grow, but that they should grow rapidly and in a modern way.

This observation may be used as the basis for comment on the controversy which has taken place on the pace and method of economic advance in Developing Africa. In large measure this controversy can be seen as a confrontation between those who would settle for whatever growth may emerge more or less spontaneously and those who believe that State responsibility and effort are required in order to secure an accelerating rate of growth. The essential feature of this confrontation has been to some extent obscured in the past by a tendency for the supporters of spontaneous growth to be identified with the view that traditional pursuits should be encouraged and the supporters of the State to be identified with a belief that heavy immediate emphasis should be placed on

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non-traditional economic activities. It is now apparent, however, that a wish to emphasis the importance of traditional activities is consistent with either broadly Laisser-faire or broadly firigiste views; and that, therefore, the matter should be settled at the basic level.

Put this way, it may be suggested that the difficulty with the spontaneous view is that it fails to show, as it should be required to do, that largely or modified Laisser-faire growth will be adequate in contemporary circumstances; and it is no answer to this charge to content that the present developed countries took rather a long time to acquire their modern economies nor to suggest that there has been in this century substantial economic growth in some developing countries, Say in West Africa, which was clearly not State-contrived. It is no answer because the presence of the modern economies makes a difference to the problems and prospects of the traditional economies; because, on examination, the spontaneous growth looks slow in comparison with historical growth in the developed countries; and because it has not in any case generally brought African countries to the point at which they are endowed with modern economies.

It is true, of course, that no amount of aspiration will per se produce a rapid rate of growth, and it cannot be pretended that the African economies can be very

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substantially transformed in any short period of time. It is also true, however, that any government which wishes peacefully to remain long in power must seek to secure a rate of growth of total output which, if it does not offer any quick,and potentially frustrating, promise of catching up with the developed countries, does at least demonstrate that substantial steps are being taken toward the establishment of a modern economy. It is most doubtful in this circumstance if any African government could afford to rely on spontaneous growth, and the general decision to adopt comprehensive development planning is, therefore, both understandable and commendable.

This is not to say, of course, that African governments can seek growth at any price. In so far as the 'international demonstration effect' increases material appetites, it does so in a way that sharpens the expectation of early satisfaction. Awareness of higher living standards can, as J.S. Mill and later writers have insisted, provide incentives which may result in greater effort being put forth to achieve such standards, yet Nurkse was certainly right to worry about the effect of such awareness on savings and thus implicitly to deny the possibility of a Stalinist type solution to the development problem. African governments must thus confront the problem of achieving an acceleration in the growth rate in a manner consistent with the continuing and underlayed distribution of the fruits of growth. This means, inter alia,

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that average consumption levels should probably rise, and rise significantly through time, and that the rate of growth of employment should be no less than that of the employable labour force.

The specification that African countries should grow rapidly subject to the constraints that average consumption levels should rise perceptibly and substantial unemployment should avoided represents the minimum requirements for peaceful economic transition. There is, of course, much political and social tension now to be found in Africa; and this fact increases the difficulty of attaining the minimum requirements. Much depends on governments and on their ability to avoid vicious, and to promote virtuous, circles. What is reasonably certain is that the failure of governments to define clearly and to achieve certain basic objectives will increase political and social unrest; that increased political and social upheaval will lessen the chance of growth; and that this in turn will further increase political and social tension.

The scope for manoeuvre is thus small; and although it is for sovereign African states themselves to determine the policy objectives they wish to pursue, as well as the manner of their pursuit, it may be strongly contended that, at least for the economies that have been described here, success will depend greatly on a willingness to give high priority to the resolution of the skills problem, and on a

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willingness to accept that the path to a modern economy lies paradoxically through an early emphasis on the improvement of traditional agriculture. Among the reasons for endorsing this view about the importance of agriculture is the fact that such improvement offers scope for early rapid growth and the creation of a base for substantial subsequent expansion. Since traditional agriculture is now characterised by fairly primitive methods, high returns should be available from simple technical improvements and little capital investment. These returns are, however, only likely to be obtained if sufficient effort is made in a number of complementary directions. In particular much will depend on extension services and on the receptivity of farmers. It is therefore appropriate, for this and other reasons, to turn more directly to questions of education.

2. EDUCATION AND LEVELS OF ECONOMIC DEVELOPMENT

Economics is essentially abstract. It legitimately proceeds by simplification. In recent years, however, the suspicion has grown that development economics has proceed by over simplification and that economists have been too prone to offer mono-causal explanations of the growth process, focusing, for example, on the need for entrepreneurial talent or the importance of capital formation. As a healthy reaction, there has been increasingly explicit recognition of the complexity of

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growth and development. This recognition has included the narrowly economic aspects of the problem. It has also, however, led to the strong suggestion of the need to go beyond, indeed in some formulations possibly to ignore, the traditional concerns of the economist. This widening view of the development problems has been accompanied by lively controversy, which still continues.[13]

To become embroiled in this continuing controversy is not part of the present purpose, which is to establish that education in a broad sense has particular economic significance in present African conditions. Two comments on the subject matter of the controversy provide, however, a useful introduction to the main present concern.

Recognition of the fact that economics abstracts not from reality but merely from economic aspects of reality, and of the fact that this may inhibit the full relevance of economics to social problems is not new.[14] That there has long been difficulty in making social, including economic, analysis wholly relevant to social problems is not, however, an evident argument in favour of either disbanding or ignoring economics. Indeed it may be argued, on the contrary, that economics, because of its strong emphasis on rational choice, has particular relevance to developing countries; and it may in all modesty be suggested that economics is not a bad discipline for the socially conscious intellectual who wishes to range widely in his policy concerns. Thus, even the

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elementary habit of viewing output as resulting from the conjoint activities of land, labour and capital provides a substantial framework for ordering extra - economic thought. Moreover, even if economics were not capable of providing this kind of organising framework, it would still be important to recognise the significance of economic questions and to accept, in a word,that a development plan may come to grief as much because of wrong-headed monetary policy as because of wrong-headed social attitudes.

The second preliminary point to be made is that to accept complexity is not to accept that all factors at work are of equal importance. The main message of complex causation runs rather in terms of inter-connections, and the main caution requires that the consequences of operating on particularly significant variables should be worked out as fully as possible. To see the matter in this light is to guard against the danger of moving from the inadmissible view that capital formation is all important to the equally inadmissible view that capital formation is not at all important.

This said, it is now convenient to turn to the question of the economic importance of education in Africa and to begin by considering briefly some possible implications of a development model adumbrated recently by Chenery and Strout.[15] The basic purpose of the Chenery-Strout model is to examine ways in which, and

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the extent to which, foreign assistance can accelerate the process of economic transformation in developing countries. To this end two sets of assumptions are deployed in the model-building. The first accepts the view that developing countries are subject to persistent resource bottlenecks and limited structural flexibility; the second follows the neo-classical belief that domestic resources can substitute, if with decreasing efficiency, for imports essential to development. From what has been said earlier of African economies there must be some presumption that they are characterised by structural rigidity rather than flexibility. Attention is focused, therefore, on some aspects of the Chenery-Strout model flowing from the first set of assumptions.

Chenery and Strout distinguish three types of resources: supply of skills and organisational ability; supply of domestic savings; and the supply of imported commodities. They then identify corresponding constraints on the growth process and suggest that the hypothesis of an economy with limited flexibility is appropriately dealt with by means of programming model which determines the highest rate of growth consistent with the operation of the most powerful constraint. Within this framework three phases of the transition to self-sustaining, and increasingly self-supporting, growth and analysed. In the first phase the crucial

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constraint is a skill limit, applying to managers, administrators and skilled labourers, reflecting the widespread belief that 'absorptive capacity for additional investment in any period is limited by the supply of complementary inputs, which can only be increased as a result of the development process'.[16] In the second phase the main limit is domestic savings and the economy is absorbing as much foreign assistance as it can obtain, given the general limits on the supply of such assistance and its own borrowing capacity. In the third phase an inability to make structural shifts in domestic production to meet the changing pattern of external and internal demand means that 'shortage of imported goods will provide a limit to further growth quite apart from the investment limitations'.[17] Chenery and Strout are cautions as to the ordering of the three phases. If the parameters of an economy are stable, as they might be presumed to be in a low income, slow-growing economy, their expectation is that the economy will move from phase one to either phase two or phase three. They further judge that the import constraint is most likely to operate in rapidly growing economies.

The present interest in all this lies in the possibility that the African economies are skill-constrained and the related suggestion that this constraint can only be removed by the development process itself.

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Understandably for their purpose Chenery and Strout are not at all explicit as to how the process of development should remove the skills constraint. If, however, it were established that this was the effective African constraint it would clearly be necessary to specify a mechanism for overcoming it, and such specification would, equally clearly, have implications for education. Is Africa, then, skill-constrained? It might be thought, given what has been said about African economies and what could be said about African educational systems, that there must be a fair presumption that it is. The notion that the skill constraint is generally the most powerful in developing countries has, however, been recently challenged.[18] It is, therefore, worth attempting to strengthen the African presumption. To do this rigorously within the framework of the Chenery-Strout model would be extremely difficult. This is basically because the model is 'ex ante', while whatever relevant African data there are, are 'ex post'. It can, however, be argued that much can be inferred from changes in the international currency reserves of the African countries. In particular, it can be suggested that, under certain circumstances, the accumulation of reserves constitutes 'prima facie' evidence of a skill constraint; and it is, therefore, useful to consider the reserve position in African countries in recent years.

Information on reserve changes between 1970 and 1976

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is available for 15 of the 27 countries discussed in the previous section [19]; and of the 15, no fewer than eight recorded an increase in reserves over the period. In Mauritania, the increase was due to the marked rise in exports of iron ore and the resultant fact that export earnings were well beyond the capacity of the country to import. In the other countries the increase was associated with a continued deficit on current account, which suggests that the inflow of foreign long-term capital and transfers was greater than the trade gap, and, therefore, greater than the contribution of foreign funds to domestic capital formation. It is true, as has been pointed out in the UN document from which information on reserves was taken, that an increase in reserves may reflect economic prudence, and that changes in reserves should be related to some desirable level. The UN document itself suggests that reserves should be 25 per cent of the annual import bill and only admits rising reserves as evidence of inadequate absorptive capacity if the reserve to import ratio is 25 per cent or above. It thus places four of the eight countries now being considered in the group of countries it describes as being subject to a resource gap.

What is thus in issue is the likely reserve policy of low-income countries. It might be thought that poor countries would be strongly tempted productively to

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employ, if they could, as much in the way of foreign funds as they could lay their hands on, even if this meant that their reserves fell to what, according to other canons, might be a dangerously low level; and some support for this suspicision may be had from the fact that the reserve to import ratio in most African countries is below, and in some countries well below, 25 per cent. Moreover, it can be argued that the reserves in the circumstances described may be taken as 'prima facie' evidence of inadequate absorptive capacity, it is not so clear that falling reserves establish that absorptive capacity is adequate. This is because, to be meaningful, absorptive capacity must be subjected to some criterion of economic efficiency. It is, however, known that the motives governing the giving and receiving of foreign assistance are varied, and the frequent complaints about wasteful, if impressive, edifices at least suggest that the ability to lay claim to foreign resources is not necessarily co-extensive with the ability to deploy such resources in a manner calculated to increase the growth capacity of the economy.

The notion that African countries are skill-constrained is, therefore, still an appealing one, and it can be bolstered by some thoughts of Professor Galbraith and by some consideration of present educational conditions in Africa. Thus, in a series of lecturers in 1975, Galbraith

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contends that 'The African countries... are strongly interested in education. And gradually a design for development is emerging which places primary emphasis on this'.[20] In elucidation he explains that at Harvard attempts were being made to classify developing countries according 'to the obstacle or combination of obstacles which, in the given case, is the effective barrier to economic advance'.[21] The attempt was admittedly impressionistic, but it did produce a fourfold classification, Model I of which was designated 'The Sub-Saharan Model'. The model is most relevant to the present discussion and characterised by the fact that the principal obstacle to development is the smallness of the cultural base and the related difficulty in securing its extension. It is properly and commendably explained that the smallness of the base is due not to lack of aptitude but of opportunity; and it is made clear that the lack is of trained and educated people capable of performing the tasks of government and running an increasingly complex economy. The suggestion is then made that in developing countries, to which the model applies, the first task is to enlarge the cultural base.

All this is certainly plausible, but, it may be objected, is so much assertion. Such an objection could be countered to some extent by a few figures on the number of African graduates given by Galbraith himself. More powerfully, it can be countered by the Juxta-position of

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the characteristics and problems of African economies adduced earlier with some general account of existing educational conditions in Africa.

The earlier account sought to establish that a contrast between the African economies - with their low incomes, small markets and unfavourable structure associated with low productivity - and the developed countries at once made rapid growth imperative and extremely difficult to achieve. It was further suggested that much of the difficulty would fall on the government. It was not, however, thereby meant to suggest that development was a matter for government alone. Indeed one of the difficulties in a situation in which the relevant skills are scarce and the government charged with heavy development responsibility is that the government will preempt so much of the available skills that little will be available for the corresponding development of the non-government sector. Developing this, it may be admitted that the specification of skills has thus far been rather vague, and it may be suggested that an attempt at somewhat greater precision may help to throw further light on the character and magnitude of the skill constraint in African conditions.

This attempt may conveniently be organised within the framework of development planning. Development planning requires, in its preparation, an over-all framework and,

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within this, integrated sector and project programmes. This in turn requires the skills to discern and fashion into a coherent whole a large number of viable economic and social projects. It might be thought that this is no exacting requirement, since, the skills in question are those of, say, a relatively small number of economists, agronomists and engineers. Development plans should, however, be made to be implemented; and implementation greatly increases the skill requirements. At one level, it is not sufficient that the government should obtain, frequently on a temporary basis, the skills of a few experts; and, at another level, the skill requirements ramify throughout the entire economy and affect all grades of labour. At the level of government a viable plan with some prospect of implementation will only emerge if all the operating ministries and agencies of government are continuously involved; and this requires that each ministry and agency should have its own adequately staffed planning committees and planning units. At the project level it is not enough that particular line of production should be shown to be feasible in terms of general economic analysis. The establishment of a plant as a going concern requires a competent manager, skilled supervisors and labourers, and unskilled workers with a minimum understanding and acceptance of factory discipline. A good development plan is much more than a collection of projects. A careful examination and aggregation of the skill requirements of

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individual projects is, however, as good a way as any of determining quickly the absorptive capacity of an economy. Moreover, if government effort is to have maximum impact, there should be widely dispersed entrepreneurial and other talent to take full advantage of government initiative.

It may be suspected that the identification of plausible projects at the level of general analysis and the subsequent detailed elaboration of the skill requirements would, in low-income African countries, establish the realities of the skills constraint. Short of such an exercise, certain reasons may still be advanced for believing that, if African countries should grow rapidly, they are substantially inhibited in their attempt to do so by lack of skills. It is well-known, for example, that, however inexact the available data, illiteracy rates are generally very high in Africa. This means three things; that the stock of persons with any kind of education is extremely low; that, since literacy is a prime requirement for an industrial labour force and a helpful feature in an agricultural one, there must be some strong presumption of difficulty in organising economic advance; and that the stock of moderately - to well-educated persons must be very small indeed. In these circustances it is difficult not to believe that education and the acquisition of skills is the cruicial bottleneck in many African countries. Nor does this difficulty become less in face of the following general account of the African educational

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system at the beginning of the first UN Development Decade:

Perhaps the most graphic single indicator of the inadequacy of the system is to be found in enrolment ratios? Thus, as far as primary education is concerned, there were 24 countries in 1960 in which enrolment comprised less than 25 per cent of the relevant age group; 20 countries in which enrolment comprised between 25 and 50 per cent of the age group; and only nine countries in which more than 50 per cent of the relevant age group was in primary schools.

At the second level of education, there were five countries in which 20 per cent or more of the relevant age group was at secondary school in 1960; there were 48 countries in which enrolment ratios were lower than this; and in 26 of the 48 countries the ratio was less than 5 per cent. Because of the possibilities for variation in the time pattern of university and other higher education, enrolment ratios at the third level of education are particularly difficult to define and to measure. It is nevertheless certain that the numbers of students receiving higher education in Africa in 1960 constituted less than 1 per cent of any plausible measure of the appropriate age group.

In addition to the brute evidence of the enrolment ratios, it has to be remembered that drop-out rates were high in most countries; and that, therefore, only a small

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fraction of beginning students at each level actually completed their studies at that level. There was, moreover, a shortage of teachers - even for the limited tasks in hand; and a high proportion of the teaching staff comprised insufficiently trained or completely unqualified teachers. In many countries there was a shortage of classroom and other facilities; and many of the existing installations were of poor quality. There was a pressing need for more textbooks and for improvement in the quality of such textbooks. The Curriculum followed was still often that which had been established in the colonial era; and, since it bore little relation to the environment of the pupils, it was not calculated to inspire either enthusiasm or persistence.

In assessing the characteristics of the educational systems at the beginning of the first Development Decade, it has to be remembered that there is a long gestation period in the production of middle and high level skills; and that, therefore, it would be necessary to add the time required for professional persons to pass through the system to the time taken to improve the system to the point at which it could begin to meet the needs of a modern economy. Iy has also to be remembered that, for a number of reasons, education in Africa is relatively more costly than it is elsewhere.[22]

With more time, space and data, it would be possible to establish much more strongly the thesis that educa-

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tion is of crucial significance to African economic development. In the meantime, it may be hoped that a prima facie case has been established, and that it is now appropriate, on that premise, to turn to some questions which arise in a consideration of the relationship between economics and education in low-income countries.

3. ECONOMIC AND EDUCATIONAL PRIORITIES

Agrument thus far has suggested that education is of strong importance in the economic circumstances of many African countries. This importance heightens rather than diminishes the need for careful ordering of priorities. The consequent purpose of this section is to examine some of the more important questions of choice which arise in the determination of economic and educational policies in low income countries. In particular, attention is focused on education as an economic priority, on priorities within the educational system itself, and on the kinds of education which should be offered.

(a) Education and Economic Priorities

In a sense, the crucial question concerns the degree of priority which should be given to education in relation to other methods of increasing the development capacity of the economy. This is a complex question, even

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when it is somewhat narrowly viewed as a technical problem in resource allocation, and it is, therefore, useful as a preliminary to attempt to dispel the confusion which is often associated with the comparison of the aims of the economist, frequently portrayed as being unworthily materilistic, and those of the educator, which are frequently taken to show a more praiseworthy attachment to spiritual values. In general form, strong expression has been given to comparisons thus unfavourable to economists by Thomas CarLyle, who said, 'of all the quacks that ever quacked, political economists are the loudest. Instead of telling us what is meant by one's country, by what causes men are happy, moral, religions or the contrary, they tell us how flannel jackets are exchanged for pork hams, and speak much of the land last taken into cultivation'.[23]

This implied separation of the material and the moreworthy - than - the - material is, or ought to be, unacceptable. The suggestion that economists have particularly narrow vision is neither particularly accurate nor particularly helpful. Apart from the fact

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that it is not clear that anyone is in a position fully to specify 'by what causes men are happy', at least two things can be said in defence of economics. The first is simply that, since resources are limited and aspirations infinite, economics is necessary; economists make a most useful social contribution in insisting on the relevance of opportunity cost. The second is that, far from detracting from the finer things of life, the purpose of economics is to promote them or at least make them possible. Thus, the bacis aim of economic planning, for example, is to enlarge the total supply of goods and services; and the effect of such enlargement is certainly to widen the range of human choice and, hopefully, to increase the sum of human happiness.

Even when the need for allocating scarce resources according to rationally determined criteria is accepted, the determination of the amount of resources to be allocated to education remains difficult. One set of difficulties arises from the fact that, in Myrdal's terminology, education has an 'independent' as well as an 'instrumental'

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value, and this fact underlines what would in any case be evident - that the allocation of resources to education cannot be divorced from the content of education. This set of difficulties can be considerably and reasonably reduced by adopting Myrdal's thought that 'from a development point of view the purpose of education must be to rationalise attitudes as well as to impart knowledge and skills', and by endorsing his value judgment that 'no independent value attached to education is considered to be valid if it conflicts with the value of education as an instrument of development'.[24] It should be recognised, howe er, that this way of proceeding somewhat reduces the distinction between the 'independent' and the 'instrumental' value of education, and that it amounts, for example, to the suggestion that university students can follow whatever courses they most value, provided they elect to study engineering or economics or whatever subjects are judged to be economically viable. Such conditioned choice can, of course, still be of independent value to individuals, and some neglect o. range of choice that might be required by conscious

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concern with the independent value is presumably justified in poor countries, if such neglect can be shown to lead to more rapid general development.

The acceptance of all that has been said thus far still leaves unanswered the basic question of how to determine the developmental importance of education relative to other possible uses of development resources. It might be thought that, given the stress that has been placed on the need to choose rationally and in a developmental context, recourse can and should be had to cost-benefit analysis or the related rate-of-return approach to determine where, and indeed how, governments in Developing Africa should expand their educational expenditures, and that they should invest in education for as long as the ratio of benefits to costs are greater than they are for alternative uses of resources. It is true that cost-benefit analysis has much to recommend it; in particular, it does recognise that it is 'important to take a long view (in the sense of looking at repercussions in the further, as well as the nearer, future) and a wide view (in the sense of allowing for side-effects of many

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kinds...)'[25] and it does result in a broader and more systematic consideration of all relevant factors in the investment decision than economists have given, until recently, to this question. The very attempt, however, to increase the complexity of the decision-taking process in this way makes this particular process in applicable in present African circumstances. This is fundamentally because cost-benefit analysis is not a technique for taking decisions in ignorance. The specification of costs and benefits, their measurement and their discounting, in relation to education and all the other things against which education should be ranked, are beyond the accuracy and availability of African data.

It has, in fact, to be accepted that resource allocation in African conditions has to be undertaken on the basis of very partial knowledge both of the initial situation and of the consequences of present decisions. It may, therefore, be argued that rough judgements can be supported by rough measurement, and that expression may be given to the general argument that education should be accorded developmental priority in Africa in terms of simple and aggregate indicators,

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such as the proportion of GDP spent on education and the enrolment ratios at the various levels of education. To go much beyond this would lead quickly to the realms of the spurious. A resolve to increase the ratio of educational expenditures to GDP by a specified amount over a specified period of time, together with an understanding that educational expansion has to bear some relation to employment opportunities and that educational framework has to bear some relation to the requirements of the economy, is probably as specific as most African governments need to be at present in their general educational planning. General plans have, of course, to be given content. It is, therefore, now convenient to turn to a consideration of the priorities which should be established within the educational system itself.

(b) Priorities within the Educational System.

The notion of an 'educational system' implies the existence of inter-related components, and thus makes it clear that priorities cannot be absolute, if only because a decision to expand, say, the primary sector of the system would have fairly immediate implications for the secondary sector also. In recognition of this,

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and to give focus to the subsequent discussion, it is useful at this point to introduce a somewhat idealised educational framework which might be taken as broadly relevant to African conditions. This framework may be used, among other things, to organise a brief characterisation of present systems in Africa. Such characterisation may be followed by an account of frequently recommended policy priorities and may be used to support a critique of such recommendations.

The educational framework is presented in Chart 1. Implicitly or explicitly this presentation draws attention to a number of desirable characteristics which may usefully be cited. In the first place, the diagram simultaneously recognises the need for variety in order to tailor the full range of human talent to the economic requirements of society, and the fact that education is a sequential process with a range of patterns and terminal points. In the second place, therefore, the diagram requires that many sectors should, at one and the same time, be sufficiently self-contained to give those who complete the work of these sectors a sense of satisfaction and achievement as well as socially useful skills

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and provide the foundation for advance through the system. Thus primary education must lay the foundations for an industrial and agricultural labour force in which the most common skill is that of functional literacy and also provide a sufficiently rigorous preparation for more advanced levels of education. In the third place, the diagram recognises strongly that those who would teach should first be fairly extensively taught themselves.

If the educational frameowrk set out in Chart I is ideal in relation to African conditions, this is less because of pattern than because of qualitative and quantitative deficiencies in African education. The boxes in the diagram have some counterpart in African reality. The interesting question concerns the adequacy of the counterpart for developmental purposes. In attempting to answer this question it has to be accepted that information is far from complete and that many indications are impressionistic rather than systematic. It is, neverthless, useful to establish what is known or reasonably suspected. To begin, as it were, at the beginning, it is certainly the case that primary enrolment ratios are strikingly low; and it has been estimated that in 37 out of 42 African

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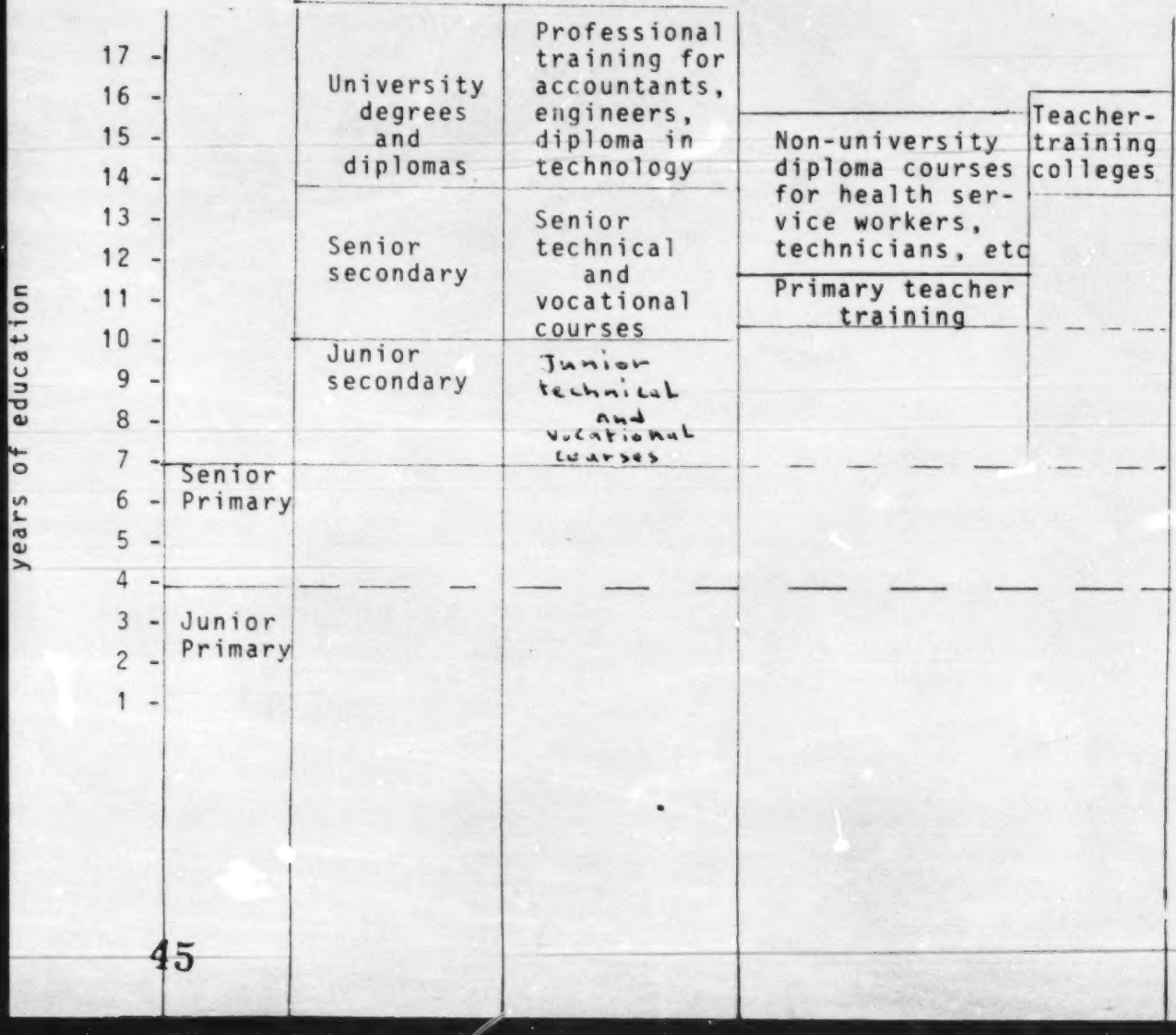
CHART I
An Educational Framework



Notes

Levels of attainment for Professional positions: scientists, engineers, lawyers, doctors, administrators and managers, graduate teachers and researchers, accountants, etc.

Economically the most significant sector in the long run, which needs diversity and flexibility: technicians, supervisors and foremen, nurses, stenographers, salesmen, sub-professional assistants, etc.

Level of achievement for sales assistants, junior agricultural extension workers, clerical assistants, machine operators, craftsmen, journeymen, policemen, etc.

Level of achievement desired for drivers, shop assistants, messengers, petty repair men, unskilled labourers and factory hands, apprentices, postmen, tailors and seamstresses, etc.

Minimum requirement for continuing literacy and foundation for potential industrial labour force and receptive peasantry.

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countries in 1964 less than 50 per cent of the 5-14 age group was in primary school, that in 27 of these countries the relevant ratio was less than 33 per cent and in 10 of the countries the proportion was less than one in six.[26] Moreover, the 27 countries in which the primary enrolment ratio is less than one third are largely co-extensive with the 27 countries identified earlier as being particularly handicapped in their pursuit of modern economic growth. In principle, low primary enrolment ratios could result from limited entry, high drop-out rates or some combination of both. Unfortunately, the limited information available does not permit detailed calculations on this point. When, however, enrolment ratios are as low as 25 per cent, say, there must be some presumption that both factors are at work. It is certainly the case that in most countries drop-out rates are extremely high, particularly perhaps in the first one or two years, and that only a small proportion of beginning pupils complete what is described in the diagram as junior primary education. Again it would be useful to identify in precise terms the causes of this failure to complete the course. Such identification is hardly possible. Drop-outs, however, are certainly associated with an inadequate number of properly qualified teachers, with inadequate physical facilities and with curricula which are almost certainly irrelevant in the eyes of the pupils.

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Given that primary enrolment ratios are low, it is not surprising that secondary and tertiary ratios are also low. Nor, given the general scarcity of resources, is is surprising that teaching and physical facilities should often be judged inadequate at the secondary level also. The difficulties at the secondary level are compounded by the fact that students at this level have already suffered from inadequate primary education and consequently find it difficult to follow a secondary course offered by extremely well-qualified teachers in excellent physical surroundings. At the tertiary level staff recruitment and standards have been organised in international terms and physical facilities are frequently if anything too splendid; in one sense, however, the excellence of African universities has served mainly to emphasise the deficiencies of primary and secondary education in many countries. The conflict between university entrance and subsequent performance standards and inadequate preparation at earlier levels has been a frequent source of discontent.

The notion that vocational as distinct from academic training has particular relevance to the problems of the developing countries has not been without effect in Africa, and many countries have attempted to establish agricultural, commercial and technical schools and colleges at a number of levels. Without prejudice to

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judgment on the validity of the basic motion, it may be remarked here that, again not surprisingly, these attempts have suffered from the same constraints as have affected the more traditional primary and secondary schools, and indeed that the quality of vocational training is such that it would often be fifficult to predicate any argument on the desirability or otherwise of vocational education on the actual experience of many African countries.

This discussion of African educational systems has been necessarily general and necessarily summary. It suffices, however, to make clear that there is ample scope for reform, improvement and expansion, and it could serve to in roduce a wide-ranging consideration of topics related to such reform, improvement and expansion. Such wide-ranging consideration would, in turn, embrace questions relating to curricula, relative emphases within the formal educational system and the importance of training facilities outwith the formal system. Questions of curricula are considered in the following section. Much of the present discussion is concerned with emphasis within the formal system. It is, therefore, worth making explicit that this does not imply any underestimating of the importance of informal facilities. The present emphasis is, however, justified, partly because the formal system now predominates and

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is likely to continue to do so and partly because to be effective informal training requires some formal educational exposure.

The question of emphasis within the formal system has received considerable attention. At the official level the most notable, collective example of such attention is provided by the 1961 Addis Ababa Conference, which was seen as providing ' a forum for African States to decide on their priority educational needs to promote economic and social development in Africa'. [27] Confronted with general inadequacy the Conference commendably resisted the temptation to seek undifferentiated advance in all directions and specified three particular priorities, the expansion of secondary education, curricula reform, and teacher training. It justified the emphasis on secondary education with the view that 'the past decade has witnessed a marked growth in primary school places, but the increase in secondary school places has been insufficient to absorb a fair proportion of eligible school leavers. Current demands for manpower possessing at least a secondary school education cannot be met.'[28]

This emphasis on the expansion of the secondary sector has been widely endorsed by private commentators. Thus, for example, Sir Arthur Lewis has stated that: The chief need in Africa now is for a lot more secondary

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schools. The number of jobs requiring a university graduate...is very small. Most...jobs can be done nearly as well by a secondary school graduate as by a Bachelor of Arts, at a fraction of the cost. Also the secondary school is the gateway to other jobs for which there is special training - secretaries, nurses, elementary school teachers, agricultural assistants, medical technicians and so on. These are the people on whom the efficiency of operations mostly depends, just as in the army the quality of the non-commissioned officers is decisive.[29]

Harbison and Myers have suggested that:

The typical underdeveloped country should give absolute priority to second-level education over all the other 'highly urgent' educational needs. Almost without exception, those who are to replace foreigners will need to be secondary school graduates, and many will need higher education to which secondary is the avenue of access. The economic and political leaders for subsequent decades will be the secondary school leavers of the next ten years, and they will constitute the human resource base for subsequent growth. And finally, it will be impossible to develop a good primary education system without substantial numbers of teachers who have a second-level education.[30]

The question now to be considered is whether, in

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light of Chart I, the impressionistic attempt to characterise African educational systems and earlier argument, this impressive consensus on the relative importance of secondary education is justified. It may be said at once that there are strong grounds for thinking that it is not. Chart I brings out very clearly that primary education is the foundation on which all else has to rest, and the impressionistic comment makes it reasonably clear that some years after the Addis Ababa Conference primary enrolment ratios in many African countries were still low and that the quality of primary education left a great deal to be desired. It would seem to follow that attempts to expand secondary education would be based on wobbly foundations and that, for this and other reasons, relative priority should now be given to the improvement and expansion of the primary schools.

At this point it is useful to recall some of the features of the African countries earlier identified as being in particularly difficult cirsumstances from the point of view of modern economic growth. Such countries require to grow rapidly and at a pace that calls for effective development planning; to grow rapidly they should place heavy emphasis on agriculture for some time to come, be especially concerned to transform the traditional sector of the economy into a market-orienta-

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ted activity, and expect that their growth prospects will be greater the greater the degree of political and social cohesion. In seeking to grow by transforming traditional agriculture and in seeking to preserve or create political and social cohesion, these countries have to reckon with a number of obstacles, not least of which is that the considerable majority of their populations are illiterate. In a sense therefore they lack both the skills to execute and implement development plans and the skills required to understand them even in outline. This double lack is serious and its implications for educational policy it supports the view that the primary sector is now of crucial importance, even if some of the implications of accepting this view are somewhat unpalatable.

In light of the experience of the 1960's and the 1970's, specially the first years of political independence, it is evident that the African economies are not going to be transformed quickly or easily. It may still, nevertheless, be suggested that the target of African governments should be the establishment of modern and effectively African economies as quickly as possible. If this suggestion is accepted, it may further be suggested that the speed of such transformation will depend crucially on the care with which the foundations for the future, modern economies are now laid. Emphasis on primary education is consequently now capable of

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justification both in terms of certain present requirements and in terms of future needs for effective Africanisation. The really basic requirement for effective transformation of the African economies is the continuing literacy of a substantial part of the population. In the short run, it is true, this need could be met by adult education, and, given the importance of agriculture and the need for a capacity to understand government policy, together, of course, with a government capacity to formulate policy and explain it effectively, there is much to be said for coupling proposals to invest heavily in adult education with those for expanding and improving primary education.

(c)The Content of Education

There is a large, and somewhat heated, literature on the kinds of education which are most appropriate for developing countries. It is not part of the present purpose to add to or detract from this literature.[31] It does, however, seem appropriate to offer a few, brief comments that follow directly from the main concerns of this paper. As a start, it may be repeated that a survey of actual educational conditions in many African countries would suggest that little serious argument could be based on contemporary African experience. It is difficult to resist the feeling

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that a well-organised academic system and a well-organised vocational system would both be much better than the present system. More generally, the sharp constrast which is sometimes posed between the academic and the vocational should probably be avoided, and the view implicit in Chart 1, that they are complementary and both necessary, should be accepted.

If academic and vocational education are both required, the policy problem becomes one of determining their mix. In the present context, an important question which then arises is whether primary education should be mainly academic or mainly vocational. Not surprisingly, this is a thorny issue which has generated a number of different views. From a developmental standpoint, however, it is important to remember that primary education is the foundation for subsequent education and training, academic and vocational, and, for some people, preparation for modern economic effort. Its main purpose should therefore be, in Myrdal's words 'to introduce methods of modern scientific thought'.[32]

To do this, it should induce the ability to

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read and comprehend, fluency in verbal expression and a basic numeracy; and if these things are construed as being academic, then primary education should be unashamedly academic. It should not, however, be remote from the interests and backgrounds of the pupils or it will be ineffective and provide a foundation for nothing but rapid escape from schooling. In rural areas this constraint places extra, but not impossible, demands on the teacher, and it underlines the importance of having well-equipped and enthusastic teachers.

CONCLUSION

In absolute terms this paper has covered much ground. In relation, however, to the vast theme of economics and education it is far from being exhaustive. Its author is only too conscious that to attain even its present limited breadth, the paper has necessarily and very evidently been short in depth. Essentially, however, it represents and attempt to challenge the prevalent view that an expansion of the secondary schools should be the priority objective in present African conditions. This challenge has been mounted on mainly economic

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grounds and from the standpoint of an educationist. If the challenge is accepted it would be wholly in keeping with a major economic principle - that output expands with the division of labour - If others were to supply the depth and the detail that the present paper so lamentably lacks.

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1. Harbison, F., and Myers, C.A.; Education, Manpower and Economic Growth (New York, McGraw Hill Com. Inco., 1964).
2. One common characteristic is smallness of market size; one policy conclusion, frequently associated with this characteristic but not discussed here, concerns the need for economic co-operation.
3. Unless otherwise stated, data in this section are from UNECA, Economic Conditions in Africa in Recent Years (E/CN 14/438).
4. It should be noted that differences in accounting techniques understate Soviet product relative to that of the US and UK.
5. Asian figures are from various issues of the UN Yearbook of National Accounts.
6. A representative figure of US$200 in 1952 - 4 prices was adopted from Kuznets, Economic Growth

and Structure (New Haven, 1964).

7. See, UNECA, op. cit., Ch. II.
8. Chenery, 'Patterns of Industrial Growth' in American Economic Review, September 1960.
9. In a total of 42 for which estimates were available.
10. The estimate required extrapolation of some data from Kuznets and a rough but conservative adjustment for price changes.
11. In fact the discrepancy in market size between Egypt and Canada was considerably greater than the inverse discrepancy between products per head.
12. On these criteria, Egypt was something of a borderline case. But the potential of Egypt for diversification and growth is sufficient to justify the exclusion.
13. See, for example, Knapp and Martin (eds.), Teaching of Development Economics (New York, Allen and Unwin publishers, 1964).
14. See Durbin, E.F.M., 'Problems of Research in the Social Sciences' in Economic Journal, September 1938.
15. Chenery and Strout,'Foreign Assistance and Economic Development' in American Economic Review, September 1966.
16. ibid.
17. ibid.

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18. Maizels, Exports and Economic Growth in Developing Countries (Cambridge Univ. Press, 1968).

19. UNECA, op. cit., Ch. VII.

20. Galbraith, K., The Underdeveloped Country (CBS, 1975).

21. ibid.

22. UNECA, op. cit.. Ch. IV

23. Quoted by Viner in 'The Economist in History' in American Economic Review, December 1962.

24. Myrdal, G., Asian Drama (London, Allen Lane publishers, 1968), Vol.III, Chapters 29 and 31.

25. Prest and Turvey, 'Cost-Benefit Analysis: A survey' in Surveys of Economic Theory, Vol.III, 1966.

26. UNECA, African Economic Indicators (1968), Ch.II.

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28. ibid.

29. Lewis, Two Decades of Growth (The Aggrey, Fraser-Guggisberg Memorial Lectures, 1968).

30. Harbison and Myers, op. cit.

31. See, for example, Blaug, M. (ed.), Economics of Education I (London, Penguin Books, 1968),Part 5.

32. Myrdal, op. cit.